

Message Text

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42

ACTION OES-04

INFO OCT-01 ARA-10 ISO-00 AID-05 ACDA-10 CIAE-00 INR-07

IO-10 L-02 NSAE-00 NSC-05 RSC-01 FEAE-00 COA-01 PA-02

PRS-01 USIA-15 EB-06 COME-00 OMB-01 TRSE-00 INT-05

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FM AMEMBASSY MEXICO

TO SECSTATE WASHDC 4581

INFO AMCONSUL HERMOSILLO

UNCLAS MEXICO 9220

E.O. 11652: N/A

TAGS: ENRG, MX

SUBJECT: PILOT SOLAR ENERGY WATER PLANT

REF: STATE 216364, 235647

1. FOLLOWING IS INTERIM REPLY, GLEANED FROM TELEPHONE CONVERSATIONS.
AT EMBASSY REQUEST, ING. ANTONIO MURRAY, SUBSECRETARIA DE MEJORAMIENT
O

DEL AMBIENTE (SMA) PROJECT DIRECTOR, HAS PREPARED FULL TECHNICAL
REPORT, INCLUDING NAMES. IS AWAITING ONLY APPROVAL FROM
UNDERSECRETARY VIZCAINO TO RELEASE. VIZCAINO, IN TURN, WANTS
DISCUSS MATTER PERSONALLY WITH SCICOUNS AND PROJECT DIRECTOR.
REPEATED ABSENCES OF ONE OR OTHER GOM OFFICIAL HAS DELAYED
REALIZATION.

BEGIN INTERIM REPLY:

2. SUBJECT PLANT IS EXPERIMENTAL PROTOTYPE, PRODUCES ONE HP,
EXTRACTS DAILY AVERAGE OF 50,000 LITERS OF WATER FROM DEPTH
OF 60 METERS. OPERATES ON PRINCIPLE OF CONVERTING HEAT
TO MECHANICAL ENERGY. CABALLOS DURANGO STATE, IS SITE OF
SECOND INSTALLATION ALREADY UNDER WAY.

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3. LARGER INSTALLATIONS CONTEMPLATED, CAPABLE OF PRODUCING UP TO 100 HP AND THUS ABLE TO ACTIVATE EITHER PUMPS OR TURBINES, THE LATTER FOR PRODUCTION OF ELECTRICAL ENERGY.

4. BASIC PRINCIPLE INVOLVED IS QUITE SIMPLE; ON A GIVEN SLOPING SURFACE EXPOSED TO FULL SUNLIGHT, WATER IS RUN ALONG SERPENTINE CONDUITS UNTIL HEATED TO BOILING POINT. THE CONDUITS TERMINATE IN A DEPOSIT OF LIQUID BUTANE WHICH, IN ABSORBING THE HEAT, EXPANDS. THE XPANSION MOVES A LEVER WHICH IN TURN OPERATES THE PUMP. THE EXTRACTED WATER IS PIPED TO LARGE HOLDING TANK (PRESENTLY UNCOVERED).

5. FRENCH TECHNICIANS DEVELOPED THE SYSTEM UNDER THE EXISTING MEXICO/FRANCE AGREEMENT, USING LOCAL MATERIALS. EMBASSY UNDERSTANDS AGREEMENT COVERS UNRESTRICTED PRESENT AND FUTURE USE OF TECHNOLOGY, INCLUDING IMPROVEMENTS THEREON.

6. COST OF CABORCA INSTALLATION PUT AT PESOS 150,000 (US\$12,000), ACCORDING TO LOCAL PRESS REPORTS. PRESENT INSTALLATION IS ON ROOF OF TWO-STORY BUILDING, OF WHICH ONE FLOOR USED AS ELEMENTARY SCHOOL. IN ADDITION, SOME FEW DOZEN OLIVE TREES PLANTED NEARBY, BEING IRRIGATED (DRIP IRRIGATION SYSTEM) WITH THE WATER DRAWN FROM THE WELL. THUS HORTICULTURAL, AGRICULTURAL PURPOSES ALSO INVOLVED IN PROJECT.

END INTERIM REPLY.

7. SCICOUNS ALSO CONSULTED WITH DR. RAFAEL VARGAS SALAZAR, DIRECTOR OF CAAS (COMISSION PARA APROVECHAMIENTO DE AGUAS SALINAS - COMMISSION FOR SALINE WATER USE), SINCE CAAS WITHIN PAST 20 MONTHS HAS INAUGURATED 10 DESALTING PLANTS ALONG BAJA CALIFORNIA COAST, USING VARIOUS METHODS, INCLUDING SOLAR EVAPORATION, CONDENSATION, REVERSE OSMOSIS, ETC.; IN EXPERIMENTAL PROGRAM PROVIDE DESALTED WATER TO FISHING COMMUNITIES, AND HE OBVIOUSLY INDIRECTLY INTERESTED IN THIS USE SOLAR ENERGY. VARGAS DESCRIBED INSTALLATION AS CUMBERSOME, BULKY AND EXPENSIVE. HE PUT COST AT DOUBLE THAT CITED ABOVE, AND SEEMED INCLINED DOWNGRADE IMPORTANCE OF PROJECT. US AGENCIES INTERESTED MAY WISH TAKE THIS APPRAISAL WITH GRAIN OF SALT.

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8. UNDERSECRETARY VISCAINO PRESENTLY IN MEXICO CITY, BUT ING. MURRAY AGAIN ABSENT; THUS FURTHER DELAY, HOPEFULLY SHORT, INDICATED IN OBTAINING SPECIFIC TECHNICAL DETAILS DESIRED. THESE WILL BE FORWARDED SOONEST, TOGETHER WITH NEWSCLIPS AND PICTURES PROVIDED BY AMCON HERMOSILLO.
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